

Hobbies

WEEKLY

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January 3rd. 1951

Price Fourpence

Vol. III No. 2879

CHILD'S ELECTRIC TOY IRON AND STAND

MOST small children want to be 'like mummy', and it is sometimes difficult to explain to them that some things are not safe in little fingers. Making up the little toy shown, therefore, provides a very acceptable present, that to a child, has a very realistic touch, and yet is perfectly safe. When the iron is switched on (which the toddler can do herself) it lights up in the handle, as most modern irons do. But there is no heat to do damage, nor electricity sufficient to harm the child in the event of accident.

The light is provided by a torch battery housed in the ironing stand. The construction is, therefore, made especially sturdy, to withstand a good deal of hard use before repairs become necessary—most handymen nowadays having much other work on hand besides the too-frequent repair of toys, interesting as that may sometimes be.

The Iron

For the iron, three main pieces of wood are required. One measuring 5ins. by 3ins. of $\frac{1}{2}$ in. wood is needed for the face. Another the same size, but of 1in. wood is wanted for the body, and a piece 4 $\frac{1}{2}$ ins. by 2 $\frac{1}{2}$ ins. of 1in. thickness, for the handle. The face and body are both marked out, as shown at Fig. 1, whilst Fig. 2 gives the outline for the handle.

It will be seen that a piece 1in. by $\frac{1}{2}$ in. is cut out of the handle, in which the bulb will be fitted. There are also two grooves, 1in. wide and $\frac{1}{2}$ in. deep, cut in the top surface of the body piece, into which the handle is glued.

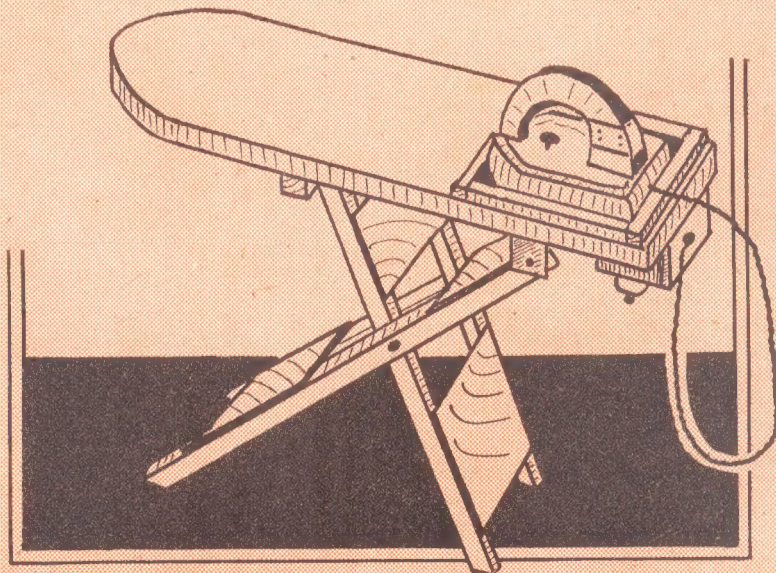
Two small pieces of thin plywood 1 $\frac{1}{2}$ ins. by 1in. are required, to cover the lamp opening when the wiring is done. The bulb is held in place by means of a piece of thin sheet brass or tin 1in. by $\frac{1}{2}$ in. This is bent to a right angle $\frac{1}{2}$ in. from one end, and is bored with a hole to take a flashbulb. It is then screwed to one of these pieces that cover the lamp opening (Fig. 3), in such a position that the base of the bulb just touches the back inside edge of the cut in the iron handle.

With a fretsaw, extend the back edge of this cut about $\frac{1}{2}$ in. on either side.

Then cut another piece of the metal and push it in to form a contact-plate at the back of the cut-out opening, as shown at Fig. 4.

For Safety

In order that the wiring may be out of reach of inquisitive fingers, it is best to run it through the iron itself. To do this, bore a small hole from the back edge into the body of the iron, to a depth of 1in., then another vertically to meet it, as shown at Fig. 4. Fit the handle temporarily in place, and mark the position for continuing this hole up



the back of handle until it meets the slit cut out for the bulb.

Fixing the Flex

If any difficulty is experienced in persuading the flex round the 'corner', it can be overcome by fastening a thin stiff wire to it and pushing this through first, to give the flex a lead. One of the ends of the flex is fastened to the back plate and the other to one of the screws that hold the lamp bracket in place.

If desired a further touch of reality can be added to the toy by making a heat-control knob. This is simply a long screw, put in from the bottom of the

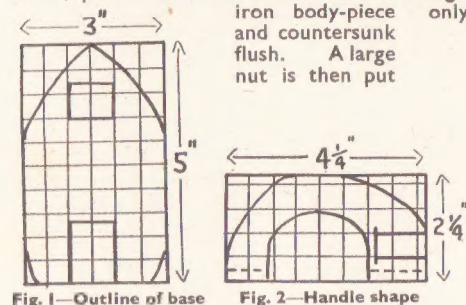


Fig. 1—Outline of base

Fig. 2—Handle shape

on at the top, and the top edge of the screw burred over slightly, to prevent the nut from coming off but leaving room for it to be fingered up and down a turn or so.

Assembling the Iron

One of the little side pieces that cover the lamp opening should be held with screws only, to facilitate any little adjustments to the lamp that might later become necessary. The other can be glued on.

When the wiring of the bulb has been completed, the handle is glued to the body. If desired to make an even stronger job, a long screw can be put in from the bottom of the body piece into the front end of the handle, as seen at Fig. 4.

Finally the bottom piece forming the iron face is glued on, and a little carving work carried out on the corners and edges of the iron, to make the pleasing contours that are characteristic of the

modern stream-lined iron. Finish off well with glasspaper, and glue over the opening where the bulb is to shine through a small piece of Perspex or similar transparent material.

The Stand

Particulars for the stand are given at Fig. 5. For the board itself a piece of 1in. deal 5ins. wide and about 16ins. long is required, the front being tapered off to a point in the usual way. Instead of the usual cross-pieces, each leg frame is held together with two pieces of plywood, as shown. This saves the work of cutting eight joints, and since we are making only a miniature stand, the extra wood



Fig. 3—Bulb holder

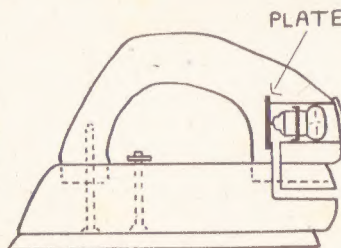


Fig. 4—Section of iron

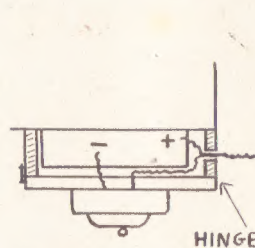


Fig. 6—Battery box and switch connections

required is negligible. Moreover, it is just these joints that tend to get loose or broken in the hands of a child.

One frame is made to fit within the other, held together with a nut and bolt in each, as shown. Only the back frame is hinged to the table, and this by means of two angle-pieces of stiff metal, as shown at Fig. 5.

In order that the legs may fold flat to the board (which some poorly-designed full-size boards do not!), the return end of these metal brackets is made 2ins. long. By making the hole for the bolts near the edge of the metal, it allows the corresponding hole in the legs to be set in 1in. or so from the ends. This lessens the risk of the bolts splitting out of the wood with use.

A block of 1in. square wood is glued further along the underneath side of the

board horizontal can then easily be seen.

To make a stop for the iron, glue four little pieces 1/2in. thick to the top of the board, in the shape of a right angle, in which the iron can stand.

The Battery Holder and Switch

The dimensions given in the cutting list allow for a battery of the 2-cell cycle lamp type being used, although, of course, any similar type will do. It will be seen from Fig. 6 that the case consists simply of four strips 1 1/2ins. wide, glued to the underneath side of the board, with a base hinged on to form a lid.

Put the hinges on the outer edge, so the little fastener comes on the inside

where it will be less likely to be tampered with. On the lid is screwed a small tumbler switch. The flex passes through a hole in the side of the battery box, and a knot should be tied in it on the inside, to prevent the pull of the flex weakening the connections.

The flex is then split, one strand passing direct to one terminal of the battery and one through the switch to the other. Between the knot and the battery there must, of course, be sufficient spare flex to allow the lid to be opened without breaking the connections.

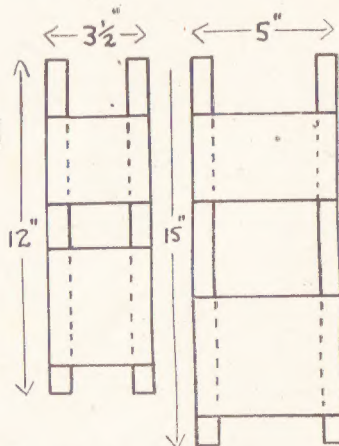


Fig. 5—Side view of stand and detail of leg frames

board, to act as a stop for the other frame, in the manner of full-size stands. It is as well to leave the final cutting of the legs at the bottom until last. The stand can then be stood upon its feet, with the movable frame lodged behind its block, and the exact position and angle for the feet necessary to make the

The board is covered with a piece of white cloth, with a little padding if available, the cloth being held down on the underneath side of the board with large-headed screws.

(317)

CUTTING LIST

No. of pieces	Description	Size
Iron		
1	Base Plate	5" x 3" of plywood
1	Body	5" x 3" x 1"
1	Handle	4 1/4" x 2 1/4" x 1"
2	Lamp Opening Covers	1 1/2" x 1" of plywood
Stand		
1	Board	16" x 5" x 1"
2	Short Legs	12" x 1" x 1/2"
2	Longer Legs	15" x 1" x 1/2"
1	Short Leg Stay	3 1/2" x 3" of plywood
1	Short Leg Stay	3 1/2" x 4" of plywood
1	Longer Leg Stay	5" x 3" of plywood
1	Longer Leg Stay	5" x 4" of plywood
1	Leg Stop Block	5" x 1" x 1"
2	Iron Holder	5" x 1/2" x 1/2"
2	Iron Holder	4" x 1/2" x 1/2"

By careful selection of materials the author made A £6 TEA TROLLEY

EVER since domestic help became expensive and difficult to get, the tea trolley has increased in popularity. Many families now only use the dining room when they have guests to tea or supper. The normal pattern of meals among such families who have a breakfast room leading off the scullery is to take breakfast and lunch in the breakfast room, and tea and supper in the sitting room.

This arrangement means less trouble in every way—laying and clearing of tables, carrying each course from the kitchen to the dining room, and so on. When there are no guests, how much more simple it is to eat the food where it is cooked, or to wheel a tea trolley into the sitting room!

The Ideal Trolley

Now a tea trolley is not a fixture of the sitting room, or any other room for that matter. It is not a work of art designed to blend with the furniture, but a purely functional article. It should, therefore, be judged solely by its efficiency, and yet it is true to say that almost every trolley suffers from one or more serious snags.

Sometimes the wheels do not run smoothly. The trolley bumps heavily on

Wheels are Important

The trolley made by the author boasts four strong wheels that do run smoothly, and there is not any bumping on and off carpets, because the wheels not only have rubber tyres, but shock-absorbing springs on either side as well! It is, therefore, the springs and tyres that take the shock and not the trolley itself, with the result that nothing is spilled.

It need never be cleaned—just polished occasionally—because the trays are not part of the trolley frame. They simply rest on two wood frames and are instantaneously detachable. What is more, the trays themselves are not made of wood but metal anodised with gold, which is heatproof and stainproof.

These trays have no sharp edges—the corners are all gracefully rounded, so there is nowhere for crumbs and dirt to lodge—and they have handles by which to lift them off the frames.

Finally, the trolley need never be unloaded in the sitting room. Two places are set on the trays in the kitchen, and on arrival in the sitting room they join up to form a table jutting out from either side of the trolley.

It sounds complicated, but like all such

gadgets that are successful, it is really the essence of simplicity and by no means difficult to make, even for one who cannot even aspire to the title of amateur carpenter. You do not even have to know how to dovetail—screws are just as satisfactory for this purpose, and can easily be disguised behind plastic wood and a spot of varnish.

List of Materials

First, here is a list of the materials needed and their prices at the time the writer purchased them. The two anodised gold trays described cost 35/- each and can be bought almost anywhere nowadays. A set of the best quality wheels with rubber tyres and springs together with sockets cost 18/-, which leaves 12/- for a few nuts, bolts, metal washers, screws and glue—and 20/- for the surprisingly small quantity of wood necessary. If you look around the attic or the garden shed you will probably find you already have all the wood you need.

Now here is a brief description of how to make the trolley. If you do have to buy the wood, ask the timber yard to cut it to the lengths and thicknesses re-

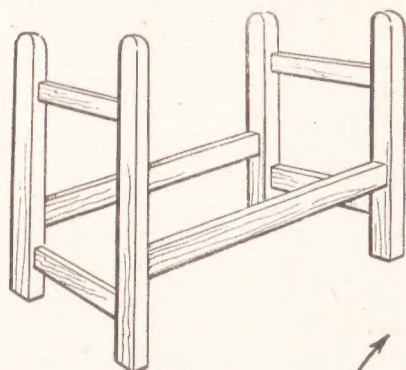


Fig. 1—The wooden framework

and off the carpet, spilling the tea or the milk. It is very difficult to clean, the crumbs getting lodged firmly in the corners, so the trays have to be scrubbed or an irate man has to turn the trolley upside down and shake it vigorously, mostly without success.

Finally, once in the sitting room, the trolley has to be unloaded on to an occasional table—and then loaded again after the meal.

Of course, not all trolleys suffer from these snags, but those that have been carefully thought out cost about £25 in the shops, and yet even they do not compare in efficiency with our home-made £6 trolley.

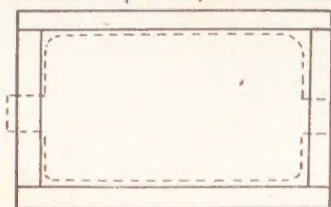


Fig. 2—The framework for the tray

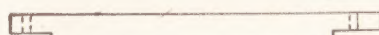


Fig. 4—The side connecting rods

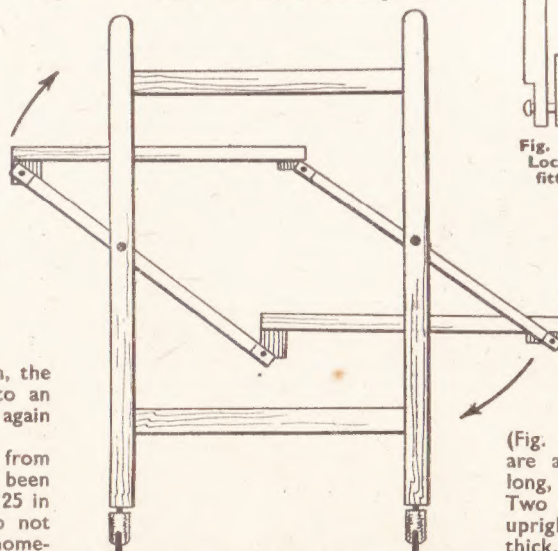


Fig. 6—End view of frames in place, swinging

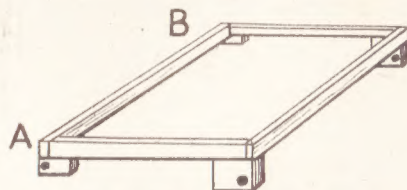


Fig. 3—Corner blocks to frame



Fig. 5—Locknut fitting

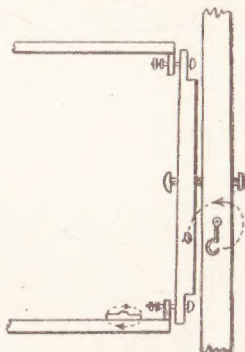


Fig. 7—Section showing fixing details

quired. This will only cost a few extra pence, if any extra at all, and it will save a lot of sawing and planing.

The first thing to do is to construct the basic frame (Fig. 1), the measurements for which are as follows. Four uprights 36ins. long, 1½ins. wide and 1½ins. thick. Two long side pieces to connect the uprights 23ins. long, 1½ins. wide and 1½ins. thick. Four short connecting pieces for top and bottom at each end 12ins. long,

1½ ins. wide and ¾ in. thick. Screw and glue these together to form the basic frame as in Fig. 1. Round off the tops of the uprights as shown, and smooth with glasspaper—these will be the handles with which to push the trolley.

Next, fit the wheels. To do this drill a hole in the base of each upright, and into each hole hammer one of the sockets provided with the set of wheels. The wheels themselves then slip into the sockets.

Assembly

Now comes the point where great care is needed—the construction of the two wooden frames that are to hold the trays. Remember that the handles of the trays resting on the ends of these frames form the sole support of the trays. In the detail at Fig. 2 the solid lines represent the frame and the dotted line the tray. The moral here is that you must first buy the trays which should measure 21 ins. from the tip of one handle to the tip of the other, and then build the wooden frames round them.

In the author's trolley each frame consists of two side pieces 20 ins. long and ¾ in. square, and two end pieces 12½ ins. long, ¾ in. wide and ½ in. thick. Use screws and glue as for the basic trolley frame.

Mechanism

Having built the tray frames, there is only one more operation to complete—the mechanism that joins the trays to form a table. Incidentally this operation causes a good deal of amusement and interest to guests. The process took quite a lot of thought and experiment to

devise, but if you follow these instructions you will not find any difficulty. At least you will be saved the whole process of trial and error.

First of all cut four blocks of wood 2 ins. by 2 ins. by ¾ in., and four more 2 ins. by 1 in. by ¾ in. Fix them to the bottom of the frames as shown in Fig. 3. You will see that the larger blocks are at each end and on the same side in both frames. Now beware!

Drill a hole in the right hand bottom corner of the large block at end (A) of each frame and at the left hand top corner of the small block at end (A) of each frame. Next, drill a hole at the left hand bottom corner of the large block at end (B) of each frame, looking at the frames from the further end, and a hole at the right hand top corner of the small block at end (B).

Connecting Rods

The last things to make before assembly are four connecting rods, two for each side. Their measurements are 15½ ins. by ¾ in. by ¾ in., the last 2 ins. of each end being only half as thick (Fig. 4). Drill a hole through the narrower ends as shown. As you will have seen already, the bolts pass through first the connecting rods and then the blocks on the frames.

It is best to place a metal washer between the bolt head and the rod, between the rod and the block, and between the block and the nut. It is also advisable to use a lock nut in addition to the ordinary nut (Fig. 5). Make sure at this stage that the rods do not foul any of the bolts.

The two frames are now joined loosely together at each end by the connecting rods (Fig. 6) which in turn must be fixed to the basic trolley frame. To do this, first decide at what height you wish the 'table' to be formed, then swivel round the frames until they are level one above the other and until the connecting rods disappear behind the trolley uprights. Make a mark half-way down each connecting rod and another mark next to it on its respective upright.

Fouling

Holes must now be drilled at these heights through the uprights, and also through the rods. You may need, in addition, to reduce the thickness of two of the rods at these points to avoid subsequent fouling of the mechanism once assembled on to the trolley frame. All that needs to be done now is to bolt together fairly loosely each rod and upright.

It is also worth while to incorporate two more small refinements. One is a hook and eye at one side to keep the frames in their vertical position (Fig. 7), and butterfly nuts at top and bottom of one side of one of the frames to retain them in their horizontal position. And there you have the complete article.

The construction of such a trolley sounds far more complicated and difficult than it really is. Certainly nothing could be more rewarding. It is a boon to any housewife—one has the satisfaction of seeing it in daily use—and the writer's is an object of envy to all his friends. (281)

If you require duplication of copies you can MAKE BLUE-PRINT PAPER

BLUE-printing paper is used by engineers to make a number of identical copies from a tracing. It can also be used to make copies from ordinary photographic negatives, and so can give hours of inexpensive amusement. The paper is easily made and the necessary chemicals can be bought from

1 lb. jam jars. Make sure all the chemical is dissolved in each jar and keep them quite separate—do not use the same stirrer for each solution, as even this will cause a slight amount of mixing.

Take the two jars into a room where the light has been subdued with fairly heavy curtains, and pour them into one bottle. This bottle must now be kept in

From the dried sheet of paper cut off a piece a little larger than the negative that is to be used. If no printing frame is available, put the piece of printing paper on to a flat board, put the negative on top of this and keep it in place with a clean sheet of glass (Fig. 1). Expose to direct sunlight for four or five minutes. To fix the picture simply wash it under the cold water tap. When the water runs clear remove the picture and hang it up to dry.

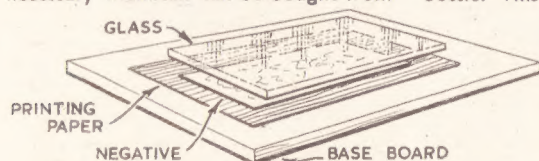


Fig. 1—Process of holding the paper

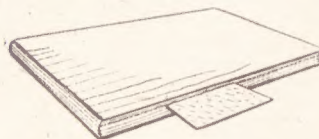


Fig. 2—Test strip in place



Fig. 3—Distinct halves

most chemists or from any firm dealing in scientific equipment.

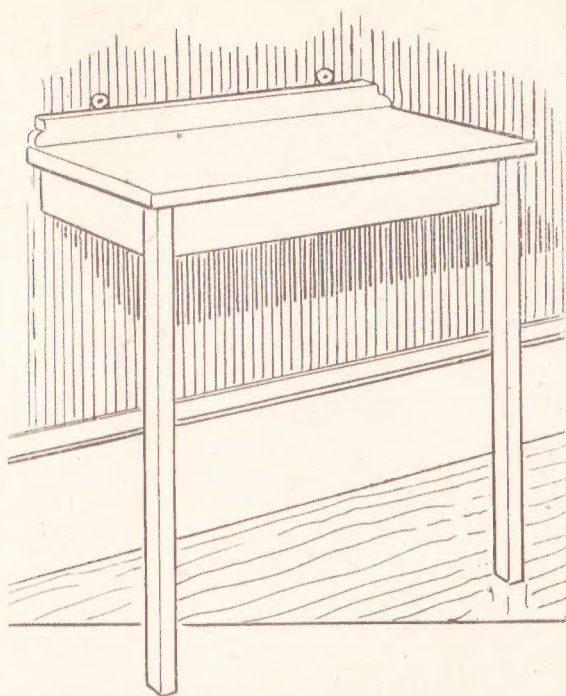
Make up two solutions as follows and mix in subdued light. Solution A—1 oz. of Ammonia citrate of iron in ½ th of a pint of water. Solution B—1 oz. of Potassium ferricyanide in ½ th of a pint of water. If beakers are not available the solutions can be made up in

the dark as the mixed solution is sensitive to light.

Choose a sheet of paper that has a smooth surface and pin it to a drawing board. Use a soft brush and paint the solution on to the paper as evenly as possible, first of all working the brush up and down and finally across the paper. Hang the sheet up in the dark to dry.

A strip of printing paper can be partly inserted in a book (Fig. 2) and used as a test strip for timing the exposure. Take the strip from the book at short intervals and when the two halves are quite distinct (Fig. 3) the picture can be taken from the frame for fixing. (268)

For economy in space the handyman can make a SIMPLE WALL TABLE



THIS pattern of table is most easy on the wood, as only one pair of legs are required, and there is also a saving on the length of rails. For a side table for writing and other purposes, a lavatory table, or dressing one, the design is equally applicable. Construction is quite simple, no difficult joints being involved, and any timber available can be used.

No dimensions are given, as it is obvious that these will depend upon the purposes the table is to serve. The height of the legs is given, and this will probably be found suitable to all cases. Having decided on the table dimensions, make a three-sided underframe, as in Fig. 1, which should be 2ins. less in length and 1in. less in width. Wood of $\frac{1}{2}$ in. thickness and 3ins. width will do here nicely.

The front corner joints are rebated, as in inset, and the frame nailed and glued together, with a temporary strip of wood, nailed across the open ends to keep them the correct distance apart until the glue is set hard.

At seven points on the inside of the frame, seen in the drawing, blocks of wood are to be nailed and glued for screwing the frame to the table top

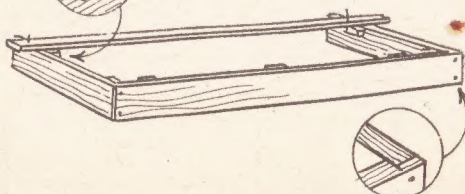


Fig. 1—Framework of top with construction details

afterwards. These blocks can be cut from 1in. square section wood, 2ins. long. In the centre bore a screw hole which will just admit a $1\frac{1}{2}$ in. screw. The fixing nails are driven in each side of this hole, so as not to interfere with the passage of the screw. The inset will make this point quite clear.

The Legs

Cut the two legs needed from $1\frac{1}{2}$ in. square wood or stouter, if the table exceeds 2ft. in length. The part of the legs contacting the frame, in this case the upper 3ins. of them, is to be cut away at the rear to fit over the corners of the frame.

Quite an easy job this if set about correctly. First mark out the portion to be removed with pencil lines at the top, and extend these down the sides to the necessary 3ins. With a tenon saw, cut down these lines, then across the bottom of them, as in detail (A) in Fig. 2.

With a sharp chisel remove the wood to the bottom of the saw cuts, as at (B), then the remainder can be easily removed with chisel and mallet. The legs are then screwed over the corner frames, two screws to each side. Glue can be added to the joints before the screws are driven right home. A strong joint should result.

Plain Legs

With certain types of table, quite plain legs will suffice, as shown in the general view, but with those intended for superior use, writing, say, a more artistic pattern of legs may be preferred.

Two alternative designs are shown at (C). In one half-round grooves are filed round the four sides at about 4ins. down from the top and 3ins. up from the bottom. Below the latter, the legs are tapered to the floor. Quite a neat shape this. The other design employs a

stop chamfer at each corner edge, with a bevel at floor level, and would specially suit when the table is made of oak or stained to imitate that timber.

Table Top

The table top can be made up from $\frac{1}{2}$ in. thick boards or stouter wood, according to size.

The boards should either be glued and dowelled together, or tongued and grooved, as convenience dictates. Plywood is not particularly suitable to this design, unless thickened at the edges all round with 2in. wide strips of wood, glued on. The top, when levelled off, should be placed surface downwards on the bench, and the frame, also reversed, laid on top. See the table extends beyond the frame just 1in. at front and sides, then screw the frame to it through the blocks.

A strip of wood 2ins. wide is glued and screwed along the top, level with the back edge of the table. This can be quite a plain strip, with a simple trim up at the ends as a finish. The screwed and glued joint, however, must be strong, as some strain comes on this strip when the table is fixed to the wall.

The best way is to see the under edges of the strip bed down flat on the table all along, as it should do if both are level. Then screw from underneath, but not quite home. Have the glue pot ready, unscrew the strip, apply the glue, and rescrew the strip up tightly at once.

Wall Fixing

For attachment to the wall a pair of wall plates are required, usually sold as glass plates. Get a pair of the slotted type, as in Fig. 3, and screw to the back of the strip a few inches in from the ends. Place the table in position against the wall and screw, driving the screw through at the top of the slot. Use round-headed brass screws for this job. Then the table can be easily removed at any time by just lifting it up until the screw heads come opposite the holes in the plates, and pulling the table away.

If attachment has to be made to a brick and plaster wall, as will be the case in most houses, the holes should be

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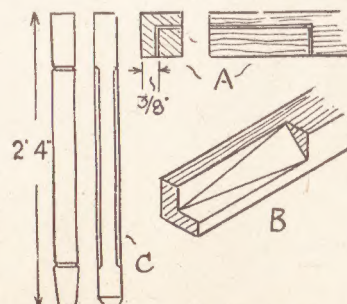


Fig. 2—Details of the leg shaping

Fig. 3—The wall fixing plates

Add to your model railway scenic effects by MAKING MODEL TREES

NO model railway scenic effects which portray the countryside look really completed without a few near 'scale-model' trees dotted around. Trees painted on a back picture are all very well, but they do not give the realism and finish that a few actual models about the baseboard impart.

Now model trees are not hard to make and moreover with a little care they can be shaped to look like poplars, elms, oaks and other of our woodland friends that have a distinctive contour.

Required for the making are a bath loofah or bath sponge (to be cut up), green dye or ink, some small twigs and glue. The size of any tree attempted will vary according to the distance it is supposed to be from the track. Trees tight up against the line should be near scale, but further back they can be smaller and right against the back cloth must agree with any trees depicted on it.

Many small trees are about 30ft. high and scaled down for gauge O, by multiplying by 5/226, work out to a model height of over 8ins. high. This would be rather overpowering, so we can reduce a little and make our close-in trees about 6ins. high without offending the eye.

The framework of model trees is suitable-sized and shaped twigs cut from hedgerows, bushes or full-sized trees. There must be a main piece for the

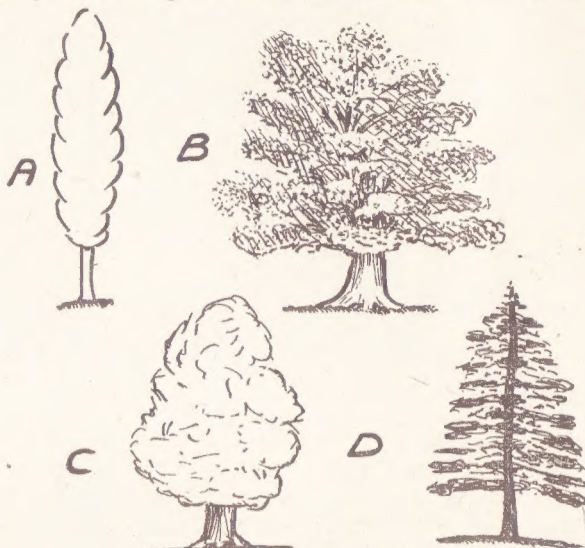
up to dry and pieces of appropriate shape to fit the boughs are cut away and teased out with the aid of tweezers or a wire brush. These are then glued in position along and around the 'twig boughs', finally being trimmed to agree with the general contour of the tree in question.

With care the most perfect-looking foliage can be thus fitted to the twig base and a finished model tree produced that leaves nothing to be desired in the way of realism.

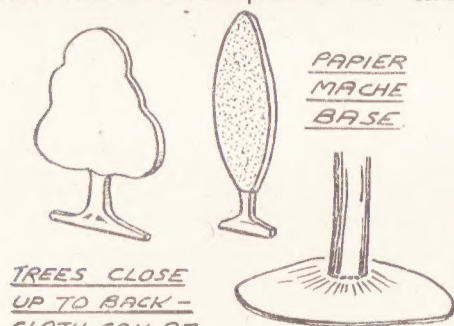
Looking at the sketches, it will be noted that the poplar is virtually straight with tight foliage covering practically the whole trunk, while the oak has a more squat and scattered appearance. The trunk, too, is much stouter. The chestnut tree has also a good-sized trunk and the same big 'head' of the oak, but is more compact as far as its covering is concerned.

method just described, but in such a way that only a flat cross section of tree is produced, in the same way that pear trees are trained to cover a wall—with a plentiful front show of branches but no depth back to front.

Model trees should be securely fastened to the track where possible. But where a movable tree is desired,



(A) Poplar, (B) Oak, (C) Chestnut, (D) Fir



TREES CLOSE
UP TO BACK -
CLOTH CAN BE
SIMPLE 'CUT OUTS

trunk with several offshoots to look like boughs. With care an outline can be got in the one piece by trimming off a twig already having a few 'branches'.

If the desired shape cannot be achieved in one piece, then a 'main stem' should be procured as near as possible in model diameter, etc., to the trunk of the tree that is being copied and on to this other, twigs are glued, till the required outline of boughs is brought about.

Now comes putting on the foliage. It is done with the loofah or sponge, which is just coloured to a suitable shade of green—'Bastik' or an aniline dye being best for the purpose.

After seeing that the material has been dyed thoroughly throughout, it is hung

There are several kinds of fir tree that can be copied, but the standard is as indicated, with the boughs coming out regularly and at right angles all round the main stem, these growing smaller towards the top. Indeed, following the good old Christmas tree shape.

To get all these points right, the modeller should go in the country and study various types of trees there are about and if possible get photographs of these taken from a good distance, so that the broad outline can be well appreciated.

While dyeing the foliage to one tint of green will give quite good effects, the best results are obtained by using various shades of green, from the light tones of the new leaf to the darker of the more ancient.

As suggested, except when there are very large spaces to be filled, the trees can, with advantage, be less than scale size and if always to be viewed from one direction, they can be slightly oval in plan, that is full size across the vision of the observer, but not necessarily so in a line at right angles to him.

Where trees apparently come forward from a back scene which includes trees, those on the base board but right up against the cloth can be either cut outs of thin wood or built up with the twig

this can be effected by making a base, as shown, with papier mâché. The trunk is well set in a mass of this which is sloped off in all directions to meet the surrounding ground.

Before this base is quite dry it should be covered with sand that has been dyed green. This is strewn over the surface and pressed down with, say, the back of a spoon, so that the area does not become too flat and even. When dry, the sand will stick firmly to the papier mâché, which in its turn will become as hard as rock. A base of this sort should be built out to diameter almost as big as that made by the branches and foliage.

The above notes all refer to the popular gauge O, but where trees are being supplied for an OO layout, these should be true scale-model size, as there will not be the limitation of space, and furthermore as OO layouts are seen to a greater extent as a whole, the fact that the trees are too small, becomes noticeable to a marked degree. Owing to its bigger size one never gets quite the same comprehensive view of a gauge O layout and so the smaller size of the tree is not noted.

On the other hand, in a garden gauge O system where there is plenty of room round about, the trees again should be full scale size to look well, as here the observer standing well over the tracks gets almost the same comprehensive view accorded to OO layouts indoors.

Home-made conversion of an ordinary clock into AN ELECTRIC ALARM

ARE you one of those unfortunate persons who find it difficult to get out of bed in the mornings? Do you sleep so heavily that an ordinary alarm clock fails to get you out? If your answer is yes to either or both questions it is time you got an electric alarm. You can make one yourself quite easily and cheaply.

Type of Clock

You will need a mantel-type clock—an ordinary alarm clock will be best—an electric door-bell, a bicycle lamp battery, and about 3ft. of bell wire. The outfit will be quite compact if you mount it on a board 12ins. by 6ins.

The idea is to make a circuit, using the hour hand of your clock as a switch to set the bell ringing. First, remove the clock from the case and make a pin-hole in the cardboard face at a point in line with the hour at which you want the bell to ring and the centre of clock. The hole will be made about $\frac{1}{4}$ in. inside the circumference traversed by the hour hand.

For example, for 7.30 your hole will be at a point halfway between figures 7 and 8 and near enough to the centre for the hour hand to strike a wire protruding from it. Now, take a length of bell-wire (this is single core, by the way, and fairly stiff) and strip off the insulating cotton for about $\frac{1}{4}$ in. Leave this bare, but around the next 2ins. wrap some sticking plaster or insulating tape to further stiffen the wire.

Fixing the Wire

From the back of clock push the bare end of wire through pin-hole in the clock face till enough goes through to foul the hour hand's circular progress at that point. Make sure the wire does not protrude far enough for the minutes hand also to foul it. Secure this position by winding the wire for a few coils around any projection that is not a part of the working mechanism.

Take care that no bare wire is touching any metal part of clock or your bell will be ringing when you do not want it.

Now replace the clock in the case and thread the loose end of wire through one of the holes in the back of the clock case before replacing. The hole for the hands-setter is usually suitable. If there is no suitable hole in the back of your particular clock you can easily punch one with a nail.

Wiring Completed

All that remains is to complete your wiring and this is easy. Do it in this order. Secure your loose end from the clock to one of the battery connections. Secure another piece of wire to the other battery connection and take the other end to either of the bell connections. Secure a third piece of wire to the other bell connection and take the other end and fasten to the leg on your clock or the ring at the top—the leg is the better place.

Testing

The job is now complete and ready for testing. Turn the hands of the clock till the hour hand comes against the wire sticking through the clock face. This will set the bell ringing (if it does not, check your connections). Turn the hands back to the correct time and wind the clock.

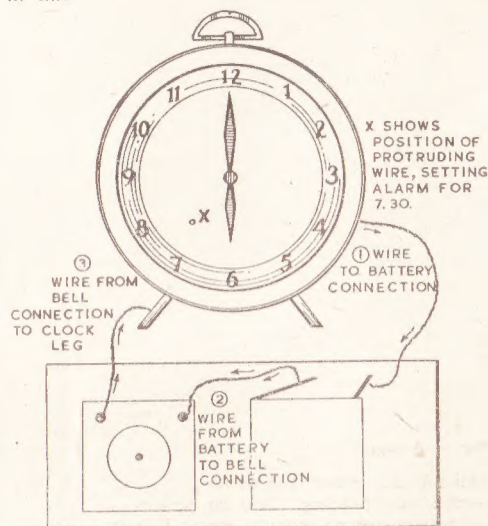
You can sleep now and forget about it. In the morning your bell will ring till you switch it off, or the battery runs out—in which case you are not just sleeping. To switch off, turn the hands back till the hour hand nearly touches the wire at the other side. This allows your clock hour-hand a full circle of 12 hours before the wire interrupts again, by which time it will have run down and stopped.

As an extra measure—to safeguard your battery—remove one of the connections, e.g., the wire from the clock-leg. To set your mind completely at rest each night test your circuit—in

the manner described—before setting and winding your clock.

Time Alteration

Should you wish at any time to rise at any other hour you can do so by either advancing or retarding the clock time when setting, e.g., if you want to rise an hour later on Sunday make your clock time one hour slow of the actual. If an hour earlier, make your clock



time one hour fast. This arrangement can be varied to any time you desire. If in any doubt, count the number of hours you have for sleep from time of retiring to rising and set your clock time the same number of hours back from the projecting wire.

Check over all your connections carefully and of course you will remember that the battery will run down after, depending on how much it is put to use.

The writer has been using this home-made alarm for over seven years with a five-shilling clock and the only occasion for it to fail was when he forgot to wind the clock. (310)

Wall Table—(Continued from page 213)

plugged for the screws first. With the use of patented plugs, Rawlplugs, for example, this job is quite simple now. Most readers will, most likely, have a few of such plugs, with the drill, in their possession, but if not, a small outfit can be purchased cheaply, and be found most essential in the home.

With the table in position, and a kindly help keeping it so, start making the holes for the plugs by inserting the drilling tool in the slot, at the top, and giving it a few blows with the hammer.

When sufficiently marked, the table can be removed, and the holes drilled to

a finish by hammering the drill, rotating it between each blow, with the fingers. See the holes are deep enough to sink the plugs level, then push them in. Replace the table, and finish the screwing, pushing them in the centre of the plugs and driving in as in the normal practice.

The finish of the table will depend somewhat on its surroundings and the use it is intended for. For instance, if it is to hold a lavatory basin or for other uses in kitchen or scullery, a coating with white paint of the hard glossy type,

would be a suitable method. With the application of this paint, however, a suitable undercoat is desirable, to give a solid effect.

As a drawing or dining room side table, probably a stain and varnish would suit as well as any, the colour to match existing furniture. Before either are applied a good rubbing over with glasspaper to satin smoothness is needful for a nice surface afterwards. Another finish worth consideration, if the wood used is deal, is to coat with a suitable undercoat and finish with Japlac.

Handyman improvements for comfort and use in these NOVEL HOME IDEAS

HAVE you one of those tall windows on the stairs which always looks so forlorn and uninteresting? Why not brighten it up in some way. Have an inside window box as follows. Make a light plywood box to fit in on the sill, inside, not outside.

If you can find a strong cardboard one

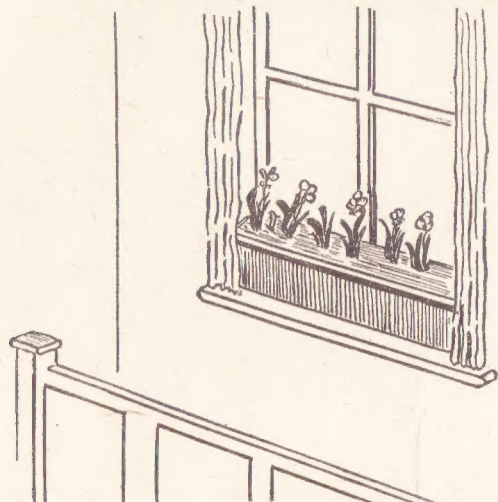


Fig. 1—A suggestion for inside flower boxes for bedrooms

this will do. Paint it in some gay colour with a neat beading. You can now fill it with sand, cotton-wool or moss. Florists sometimes sell types of moss specially for such a job. Now you can arrange the artificial flowers which you buy in the stores and you have a result as shown at Fig. 1.

Many modern homes have recessed windows and these are ideal for a window seat and you can store quite a bit underneath. The only trouble is that you may not always want it in use. During the summer with extra company and

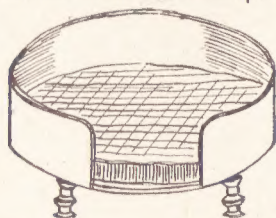


Fig. 3—A home-made dog basket

guests, it may be very useful, so it can be made portable.

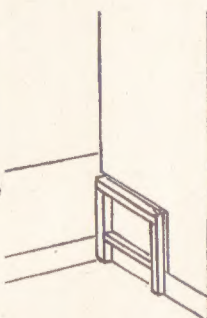
First of all prepare two strong frames, as shown in Fig. 2, to fit firmly against the wall allowing for the skirting at the back. Make it 20ins. from the ground and about 19ins. deep. Check up that the side fixtures are firm and stand level.

The main covering is now made with three or four floor-boards or the best wood you can get for the job. Have these to fit in with a neat margin so that they

do not move about but can be taken down without damaging the wall. Bring them flush to the front so they should now rest squarely on the fittings.

Carefully measure and fit two pieces of 1in. square wood as shown across the boards and just so the side fittings are held. The seat is now rigid and at the same time quite portable. Special cushions can be made to fit the top and if you add a length of curtain wire on hooks you will be able to have a frilled curtain along.

Dog baskets are expensive but you can make yourself one if you do it this way. Fix



surface for ironing. If it is a thin blanket use two layers and if thick one layer will do. Remove all old material and see that all tacks are out.

Start right from scratch and lay out the blanket so you can cut round the board with an all round allowance of 2ins. Then lay the material on the table, place the board on it, turn over the edge on one side and tack all the way down that side first, using small tacks and placing them 2ins. apart. Stretch the material tight across the board and tack all down the other side in the same way. Keep well tightened as you tack.

At the top and the bottom, cut the overlap to the exact width of the board.

This will save turning a double lot of thicknesses at the corners. Now tack down at each end. See that it is very smooth all the

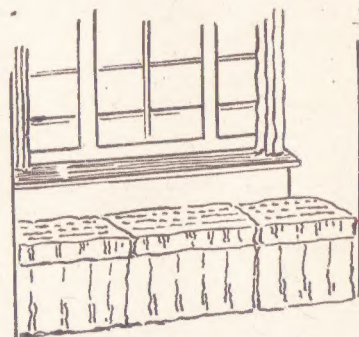


Fig. 2—A movable window seat, with above support and framework

some thin board together about 2ft. square. Now cut round with a pad-saw so you have a 'floor' for the bed. Thin sheet plywood is available and will bend if steamed.

Fix underneath two cross-pieces of 1 1/2 in. square wood to keep the boards together and on which to set the feet. Drill into this at each end a piece of 1/2 in. dowel rod about 5ins. long. This will allow you to fix legs from two cotton reels apiece and so keep the bed well up off the ground, as you see in the picture of the finished job in Fig. 3.

A worn-out or damaged ironing board is a danger but it can be repaired quite easily. Probably the 'padding' has gone and this can be replaced with a piece of old blanket. This must be free from holes where the iron is used most; otherwise it will cause a bump and the surface will tear. You must have a flat

time and not stretched crossways.

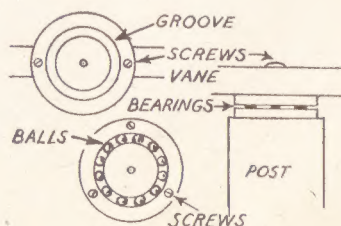
You can follow this off with a new ironing sheet which should be thinner. The idea of fixing is the same as the blanket but you will require about 2 1/2 ins. for overlap but this you must judge for yourself.

If not fixing this sheet, it can be made to fasten with tapes underneath. A similar bag shape can also be made and can fix over the board when not in use to save it from dust and dirt. (303)

Ball-bearing Weathervane

THE drawing illustrates a practical and accurate weathervane. The two circular pieces of wood shown in the detail are cut from oak 3ins. in diameter and 1/2 in. thick. A groove is cut in both pieces, deep enough to take nearly half a ball-bearing, about 3/4 in. from the centre. Both pieces are now well glasspapered. Any design may be used for the vane which should be about 18ins. long and the whole is screwed to a suitable post. The part above the ball-

bearings should be made to revolve round the screw.



A useful addition to any home is this simple MAGAZINE & BOOKSTAND

WE have received a number of requests from our workers for details and instructions for making a simple magazine and bookstand. From the fact that the word 'simple' is mentioned, it may be inferred that the joints must be easy to cut and assemble and simple in character and the whole simple in make-up.

The light magazine and bookstand shown in Fig. 1 should fulfill the requirements of all workers desirous of making up such a piece for the winter collection of books, etc. The stand should fit comfortably into a side recess, but if required longer than that shown, then the general construction given here can still be adapted, with, of course, wider and stouter wood to compensate for the greater weight of books.

Mahogany would look well for such a stand as this, but a commoner wood such as American whitewood or even plain deal would answer.

General Construction

Fig. 2 gives a front and side view with measurements for setting out the various parts. The construction is shown in the enlarged details in Fig. 3. The top (A) of the stand is a plain piece, made up, perhaps, by jointing two pieces of 6in. wood edge to edge, and putting underneath a couple of cross battens glued and screwed to assist the glued joint. This top is later screwed to the two rails (B) at front and back after they have been cut and fitted to the four uprights (C).

The uprights or legs as they might be called, are quite plain pieces about 3ft. 5½ins. long and 2½ins. by ½in. in section. Open mortises are cut in these at the lower ends to take the cross rails (G), and open slots cut at the tops to receive the ends of rails (B). Fig. 3 gives

two methods of shaping the ends of the top rails.

Joints

At (A) the rails (B) are simply let into the tops of (C) their whole width, while at (B), in the same figure, a shoulder is formed on the rail (B) which comes hard up against the uprights, making for a good tight joint when the wedges are inserted and knocked in. The lower mortises are cut 2½ins. up from the extreme ends of the uprights, and are 2ins. long by, of course, ½in. wide. The slots at the top of the uprights are 2ins. deep by ½in. wide, excepting those shown in method (B), Fig. 3, which are 1½ins. deep.

Wedges

The rails (G) have rounded ends as shown, cut carefully to a semi-circle with the fret-saw at a centre distance of 1½ins. in from each end. There are small openings cut, as seen in Fig. 3, to take the shallow-cut wedges which pull the joints well together after they are glued up. The openings for the wedges in rail (G) are clearly seen in Fig. 1—front view. In Fig. 3, at method (A) the wedge is seen just before entering its cut-out hole.

The shelves (D), (E) and (F) are all made up in a similar manner to the top (A), excepting that the edges of the shelves must be bevelled to fit properly against the four uprights. They will afterwards be screwed through to the uprights, and further strengthened by adding shelf bearers (H), which are 10ins. long by 1in. wide by ½in. thick, as seen in position in Fig. 2.

Taper Sides

The correct slope for the uprights is gained by plotting the

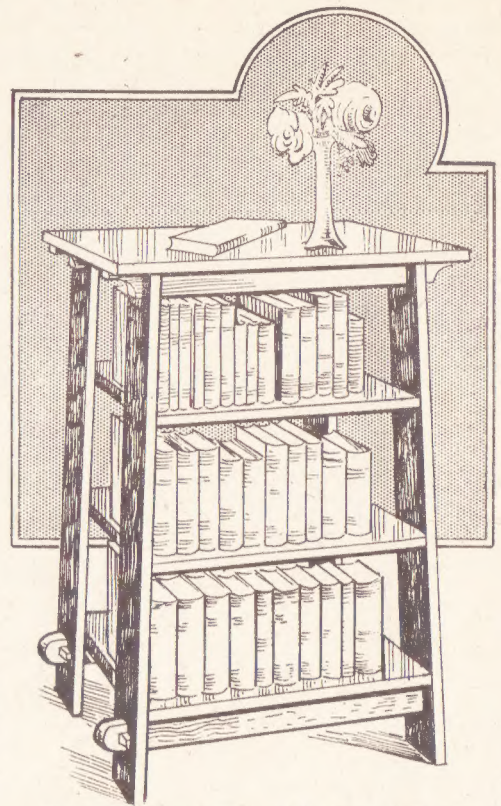


Fig. 1—An attractive and useful piece of furniture

two measurements of 18ins. at the top, and 2½ins. at the bottom. By putting these dimensions on the rails (B) and (G) the correct slope is easily got. Small blocks of wood may be added and glued between the shelves and the uprights at the ends where the rails (B) and (G) occur.

The wood should be thoroughly cleaned before being stained and polished. The following cutting list of wood will be found most useful by those who contemplate making the bookstand.

CUTTING LIST

- A—one piece, 24ins. by 12ins. by ½in.
- B—two pieces, 23ins. by 2ins. by ½in.
- C—four pieces, 42ins. by 2½ins. by ½in.
- D—one piece, 18ins. by 10ins. by ½in.
- E—one piece, 19ins. by 10ins. by ½in.
- F—one piece, 20ins. by 10ins. by ½in.
- G—two pieces, 24ins. by 2ins. by ½in.
- H—four pieces, 10ins. by 1in. by ½in.

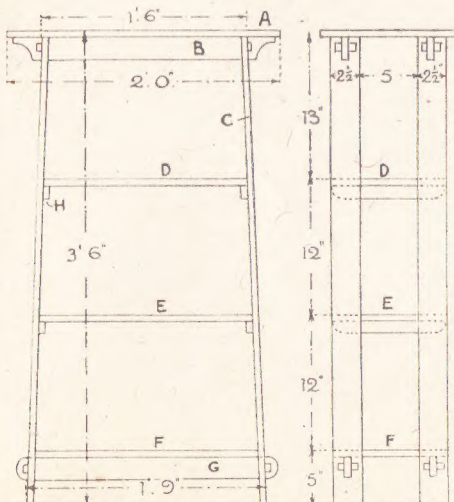


Fig. 2—Front and side elevation

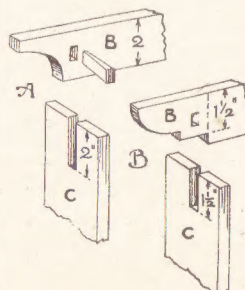


Fig. 3—Details of joints

You may not think so, but a surprising number of greasy and dirty finger and tool marks will be found on the wood to require cleaning away. Unless they are glasspapered off, you cannot obtain a really good surface to take the stain and polish, and so provide that excellent finish worthy of a good piece of work.

Hints for the fisherman who undertakes WINTER ANGLING

DO NOT hang up your fishing-rod on the wall and leave it there until summer comes again; it is a big mistake to do so. Some of the best sport by the river and lake is obtained in winter-time. At this period fish, as roach, chub, perch, dace, pike and grayling, are in the 'pink' of condition, providing hard battles when hooked.

The well-fed winter fish is the fellow to make the line rattle in the rings of the rod. Real rod-benders are winter chub and roach, to say nothing of the perch, never in finer fettle than now.

Of course, there are days in winter when inclement weather prevents us from visiting the waterside. Even if we braved the elements, there are other considerations. Fish seldom 'bite' well during severe frosts; likewise heavy floodings will put them off. But there are many days in winter when it is a treat to be by one's favourite roach swim—those bright sun-warmed days when it is quite pleasant out-of-doors at mid-day.

Equipment

If the water in the river is flowing at normal winter level and is slightly coloured, then we anticipate some fun. The number of really hopeless days during the colder months is surprisingly few.

Naturally, at this season, the angler who is wise, sees to it that he is well equipped for the conditions prevailing. It is imperative to go forth well clad, wearing your warmest overcoat, and a woollen pull-over. Undergarments should be of wool, too, and good thick wool stockings should be worn.

Stout boots well-dubbed, ensure warm and dry feet, and really are better than rubber Wellingtons, which strike cold to one's feet. A soft felt or other waterproof hat with a brim that you can turn down when at the waterside if there is a cold wind blowing or it is inclined to be showery. Take with you a Thermos flask containing hot tea or Bovril, which will be found more stimulating than anything else you can carry.

The Tackle

With winter conditions favourable you can fish with much the same kind of tackle as at other times of the year. After a period of rain, when the water is tinted ale-colour, excellent sport is often had with the roach, fishing with light float-tackle, selecting a swim that is fairly deep and of slow current, angling in what is known as the 'Nottingham' style and swimming or 'trotting' your baited hook down the swim.

Ground-bait is scattered sparingly into the swim at intervals. Too heavy a ground-baiting feeds the fish too much; just sufficient dribbled in the water to keep the roach and dace 'scrounging

round' for more is the ticket. For this sort of fishing a quiet, windless November or December day is right.

In Flooded Waters

In winter there are times when the river is in flood. Roach—and other fish likely to be found in a roach swim—often 'bite' well on a rising water. When the river is 'bang up' you should fish the bank-holes and quieter slacks and lay-byes. Dyke-mouths are likely spots, corners, backwaters, and bush 'pockets', provide shelter from the galloping main current.

For fishing in a flood-water a different method from the foregoing is adopted; you must fish with leger tackle, baiting your hook with a lobworm—the tail-end of a lob frequently kills well at such a time.

Grayling frequently sport well to small red worms as bait, fished on free running float tackle when a river is falling back to normal level again after a flood. Or a maggot or bunch of maggots, fished on light tackle with a No. 12 crystal hook on a 3x Nylon cast one yard in length, in the quieter spots and eddies, will occasionally bring handsome rewards to those anglers having access to a grayling water. Frosty weather, coming in the wake of a flood, is often a likely time to seek these lovely fish.

Bait for Dace

Dace, in winter floods, are often met with by roach-fishers, and the same leger tackle and baits are advised. After a lot of winter dace fishing the following wrinkles were picked up.

Under normal winter water level try red worms or maggots. In and after flood-time, the lob worm—either head or tail end is recommended. Fish with fine tackle—say 3x or 4x cast and No. 12 or 14 hooks, even in winter. Devote attention to all slacks, eddies, deep swirly holes, and bank swims when the water is high. Keep tempting the fish by throwing in, from time to time, a few scraps of worms or maggots.

When the stream is fast or in flood use the leger tackle, or practise 'laying-on'. But when possible at-all, stick to the method of 'swimming the stream'. This

For Wrist Ache

WHEN cutting with a hand-frame for long periods your wrist may begin to ache. To prevent this, place the lower arm of fretsaw in a vice; take hold of the handle and bend it back towards the back of the frame about 1in. out of alignment. Replace the blade and you will notice a great difference in the cutting, also the ease in which you work.

keeps you on the go more than when fishing static, and so warms you up on a coldish day. Chub, too, respond to similar angling tactics, in winter.

When 'trotting' the bait a long distance down a swim, first of all make sure that you have thoroughly rubbed down your line with Vaseline or Floatant or other suitable preparation that will keep it on the surface. Do not apply too much grease or your rod-rings may get clogged. Give lines a good dressing at home, and this saves valuable time when one reaches the river-side.

Use a centre-pin reel, paying out line so that the float travels without any 'drag'. You can check it slightly now and again to keep the bait travelling a little ahead of the float. Quill floats are best for trotting, carrying sufficient shot to weight the 'tell-tale' so the tip shows nicely above the surface.

Rough Weather Fishing

In rough weather it pays on some waters to allow the line to sink. Chub in winter are very fine 'scrappers', but this fish needs an article devoted to itself and its value as a sporting fish in winter.

In early winter the perch is at its best; a grand sporting fellow he is, and can be fished for in several ways—with float and worm or other bait, with paternoster tackle, used in the 'sink-and-draw' method, live-baiting with minnow or, another interesting method at this time of year—spinning with a gold, silver or red spoon or a gold Devon.

Roving for these dark-striped fish at this season is a grand idea if you desire to keep your circulation going. You tramp quietly along the river bank, working the bait or lure down the holes under the bank, and by camp sheathing, expecting a 'bite, and unlucky you are if you fail to hook a few fish during the day.

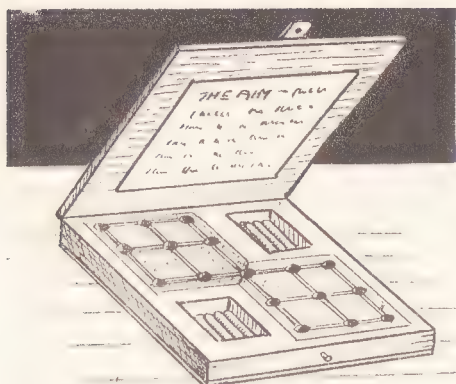
Where to Hunt

During late autumn and winter—November is often a good month—when the river is swollen by rains, try out the bank 'push pockets' fishing, either with worm or minnow. A 'bush pocket' by the way, is a deepish hole lying under the bank between two bushes, where the water is steadied.

Perch collect in such spots and if 'at home' when you pass by and drop them a sample of your wares, they will give same a hearty welcome. By old timbers and wood-baulks good perch often lurk. By the walls of a sluice is another likely haunt. After winter floods, perch will occasionally be found packed in schools in some deep eddy or slack.

Weir pools in winter offer a variety of entertainment, with pike, perch, chub, roach and dace to provide possibilities of pretty sport. Unless in very heavy flood, do not neglect these fishful spots.

The second article on making container for having FUN WITH PEG PUZZLES



THIS is an 'interchanging' peg puzzle. The board is marked out into two 'fields' or 'dens', each containing eight holes—a ninth hole in the middle is common to both. All the holes bar the centre are supplied with pegs, those in the one den being coloured red and the other green. The game is to transfer all the red pegs to the green den and all the green pegs to the red den by 'jumping' the pieces as in draughts, that is in an upward or horizontal direction. There can be no diagonal jumping. The peg that is jumped over is removed from the board.

The transfer while not impossibly difficult is not quite as easy as you might at first think, and the aim is to make the complete change in fifty moves or less. Actually it can be done in forty, but you will be lucky to start with if you attain the fifty-move record.

Construction

To make the puzzle, first mark out a 5in. square on some not too soft material having a fairly close grain and $\frac{1}{2}$ in. thick (see A, Fig. 1). Inside this the centres of the hole positions are located by drawing in the horizontal and vertical lines, as shown. It greatly helps positioning five

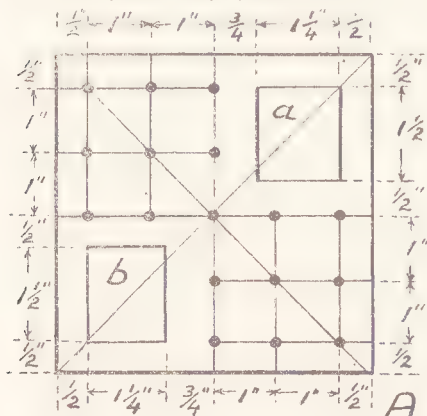


Fig. 1—Marking out the baseboard and colour compartments

of the holes—the centre, mid ones of the dens and those at the outer corners by putting in the diagonals of the square. The centres throughout are 1in. apart and a $\frac{1}{2}$ in. from the edges.

Mark in also the rectangles (a) and (b). These are $1\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. and when cut out, form the pockets used for storing the pegs when the game is put away. Note that the outer corners of these rectangles fall also on a diagonal.

Before cutting the 5in. block away from the rest of the material, drill a hole at each peg position, of $\frac{1}{2}$ in. diameter. Also take out the rectangles (a) and (b). Now smooth off the upper surface and cover the area with bright yellow enamel. When this is dry, surround each den with a line about $\frac{1}{4}$ in. from the outer holes, as indicated in (B) and then paint the squares so formed different colours.

Upon the yellow background, red and green make two good contrasting hues, but any colours really will do as long as they are bright. Note how the line at the centre cuts diagonally across the mid hole. When the dens are dry, finish by putting in a white line between the holes (in the same direction as the original scribed lines) which help players to keep to the necessary 'square' jump.

To get these lines with dead straight edges, make a small cut along each edge with a sharp razor blade and using a steel rule for guidance. It will be found possible then with the finest of brushes to paint up to these cuts and not beyond, thus giving the desired accurate outline. This, incidentally, is a dodge often used by model-makers when painting their models to get dead straight lines in the most cramped of locations.

Lid and Base

Next required is a lid and base. Both of these are from $\frac{1}{2}$ in. plywood and are the same size as the main block. The base is secured by one or two short pins and glue, while the lid is attached by a cloth hinge glued (Fig. 2) along one edge on the outside, so that the lid can fall right back and

down while the game is being played. Perfect gluing is the secret of a satisfactory cloth hinge.

The front end of the lid is held when in the closed position by means of a strip of cloth or soft and thin leather which goes over a pin in the front of the main block. For colouring, the lid and base can, with advantage, be the same yellow as the top of the block, the sides and ends of which also being finished this way, after the lid and base have been glasspapered quite flush.

Pegs

The pegs are $1\frac{1}{2}$ ins. long and a shade less than the $\frac{1}{2}$ in. diameter, so that they fit easily into the holes, but are not too slack. There are sixteen pegs in all and half of them are painted or dyed red and the other half green (or whatever colour you have used for the dens). Dyeing is really better than paint, as it will not interfere with the fit of the pegs in the holes—as a coat of paint may easily do.

For packing away, eight of these pegs go in one pocket and eight in the other, where it will be found that they just nicely fill the available space.

Finally, as with the triangle puzzle, a neat rectangle of paper pasted on the inside of the lid, giving clearly what the aim of the puzzle is, will be found good, especially when the puzzle, with others, is intended for handing round at parties. Also the words 'PEG PUZZLE' on the lid, in easily outlined letters, helps to give a nice finish to the puzzle as a whole. The picking out of the hinge and fastening tab at the front, in the same colour as the letters makes things look better still.

Instructions

The instructions on the inside of the lid which are nicely written in indian ink with, say, a mapping pen, may read—

THE AIM. To transfer by jumping as in draughts all the red pieces to the green den and vice versa in fifty moves or less. All jumping must be up or across. No diagonal jumping is allowed and no piece is taken from the board.

These should be printed as neatly as possible or you may even be able to get them typewritten. Set out the wording nicely and surround it with a plain or fancy border, so the whole thing looks attractive when you open the lid.



Fig. 2—Section showing hinging

Activities of bees and ants can be studied in this OBSERVATION CASE

READERS who have paid visits to museums will, no doubt, have been fascinated by the glass cases seen there which contain bees' or ants' nests. Being thus encased the little creatures can be easily seen, and their activities are always most interesting.

It is proposed to show how a simple case may be constructed at home, and how a colony of the common meadow ant is introduced to its new home.

Construction of the Glass Case

The sides of the case are of two pieces of plain glass about 1ft. square. When obtaining these from the glazier procure a few other strips $\frac{1}{2}$ in. wide, not more than $\frac{1}{2}$ in. thick, and 10ins. and 12ins. long.

These thin strips are glued flatly on to the two large pieces at the edges so that the space between the two large sheets is only $\frac{1}{2}$ in. If this space were more the ants would tunnel into the earth of the nest, and could not then be watched.

Making the Nest

Before commencing the gluing of the glass a little earth should be placed in suitable positions on the one large plate of glass. The best earth for this purpose is some taken from a nest of meadow ants from which it is proposed to start the new colony. Sprinkle it around the edge of the glass, leaving a space in the middle for clear observation. It may be moistened with a few drops of water so that it remains in place.

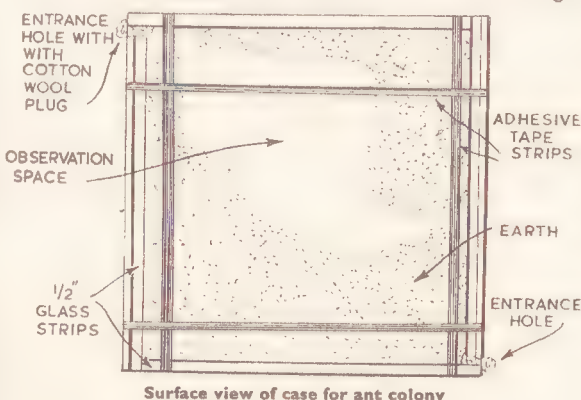
Next place the four strips of glass in position for gluing. These must be staggered according to their lengths so that at two opposite corners there is a little entrance left to the interior of the case. Glue them into position and the other sheet on to the top. The case is now complete, and ready for the introduction of the ants.

Obtaining the Colony

Use a spade to tackle the nest of meadow ants, digging deeply. The queen, which is a necessity for the new nest, can be easily picked out by her

size in relation to the other ants. Put the queen in a bottle, together with a few dozen of the common worker ants, some larvae and pupae, and some of the little pale scavengers which will be found in the nest.

To get the creatures to enter the new nest presents a small problem, and, perhaps, the best way is to place the newly-constructed case on a piece of flat wood floating on water. Place a little earth near one entrance, plugging the other with cotton wool which is a



Surface view of case for ant colony

barrier to ants. Now place the queen at the entrance, and put the workers on the flat wood around the case.

When they find themselves surrounded by water they will soon investigate the earth and make for the entrance, and set about making new quarters for the queen and themselves. Within a few hours they will have constructed tunnels and completely settled in the new quarters.

Feeding

The meadow ant does not bite, but the larger black wood ant does. If it is desired to make a nest of these the depth of the case may be about 1in., and the nest of the pine needles and other small twigs of which the natural nest is constructed. Instead of having the sides

of thin strips of glass use lengths of wood, plugging the entrance with wooden plugs.

Feeding is very simple. A drop or two of honey placed on one of the cotton wool plugs once or twice a week is sufficient for the meadow ants. Also a tea-spoonful of water may be poured in through one of the holes at the same time to keep the earth moist.

Wood ants require a little water to drink, but care should be taken not to wet the twigs forming the nest. They will also need a few drops of honey, and an occasional fly or earwig can be introduced.

Care and Attention

These artificial nests should not be exposed for long periods to daylight. They are best watched by artificial light which the ants do not appear to mind. If they are left in direct daylight for some time they form a layer of earth over the open spaces of the glass sheets, thus preventing observation. In winter even-

ings they may thus be watched for a long time by artificial lighting.

It may be necessary to clean the foul earth at the entrance holes occasionally, and it can be scraped away with a hair-pin or small fine paint brush.

If it is desired to remove the top of one of the glass sheets for closer observation from time to time, the top sheet may be kept in place with a strip of adhesive tape around the whole case instead of being glued on. This strip can be severed and the glass removed when necessary, and renewed when it is replaced.

These home-made colonies will live and thrive for years with these bare necessities of attention, and occasionally it may be necessary to remove some of the inhabitants to prevent overcrowding.

Stamp Collecting—(Continued from page 221)

illustrated here. It shows native seamen on the bridge of a boat. The one on the left is using a sextant, while the one on the right is at the wheel, but does not seem to be paying attention to his job.

On the 3d. we see a picture of the parrot fish. This is a most remarkable fish, as the teeth are so numerous and small, but as they are joined together they form two sharp edged plates rather like the beak of a parrot. Hence the name. Many of them attain quite a size and are valued for food.

Two other new issues must be recorded here. One from Australia, or really it should be three from Australia, an 8 $\frac{1}{2}$ d. which shows a portrait of an

Australian Aborigine. Australia uses some rather strange postage rates—3 $\frac{1}{2}$ d., 5 $\frac{1}{2}$ d. and now 8 $\frac{1}{2}$ d. The other two stamps are in commemoration of the centenary of its first adhesive postage stamps. Both are the same value, 2 $\frac{1}{2}$ d., and one is a reproduction of the well known 'Sydney View'. The other is a reproduction of Victoria's first stamp.

Then Southern Rhodesia has a

very attractive commemorative 2d. stamp—This stamp bears the portraits of Queen Victoria and King George VI.

Lastly we give an illustration of the late King Gustav V of Sweden. The specimen shown is that issued in 1935.



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NOTES ON NEW ISSUES

EVERY year Mr. Donaldson of Wellington, New Zealand remembers to send us, by air-mail, specimens of the health stamps which are issued every Christmas for the purpose of raising funds to send the children to camps. We must, of course, remember that the Southern Hemisphere is having their summer just when we are shivering over a fire and thinking of Father Christmas.

A glance at the illustration is quite sufficient for readers to recognise all that can be said. If any comment is to be made, it is that it is a pity that the post-mark and the special cancellation "First day of Issue" has not been placed at the base of the stamp. When stamps of this kind are being issued and a special cancellation applied, then post office officials should be told to do their best not to spoil the effort.

Cover from Canada

Another cover comes from Canada, this from Mr. Reg Gibbs who has also been most good to readers in assisting with the illustrations of interesting stamps. This one is to commemorate the issue of the new 10c. stamp in honour of the Canadian Fur Trade.

There are two covers available, both of which Mr. Gibbs sent. The one shown here with the picture of the beavers at work and the other which shows a trapper arriving at a fur trading station with a load of skins on his sledge.

Careful Marking

Note that in this case the obliteration 'First day of Issue' does not obscure the stamp design. It may be a little difficult to understand the design of the stamp, especially as the illustration of it is somewhat small. The three curious objects on the left are skins stretched on frames to dry, hanging up on the trees, with the trappers tent on the right. If you have a specimen of this stamp, then see if you can find the date 1950. You will certainly require a good magnifying

glass and then look just to the right of the tent.

We have already mentioned the Health stamps of New Zealand, and from a region which is situated very close comes a set of 10 stamps—Niue. You may not be able to find this on the map, but if not, then look for Savage Islands—to the north of New Zealand.

Two of the stamps of this set should appeal to those who are advocating that Great Britain should have pictorial stamps. The 4d. value has a picture of the Arch at Hikutavake, and any readers who know the coast of Dorset, will

for the highest value, which is the 3/-. This is a very interesting set.

Sudan Air Mail

For Air Mail postage there is a set of eight stamps from the Sudan. Buildings of a very prosaic nature are shown on three, including the Gordon Memorial College which was shown on one of the stamps of the 1935 Gordon set. There is a picture of the Blue Nile Bridge at Khartoum, a Nile Post Boat and Port Sudan, while the most interesting of the set is the 3 pt.

This shows a Sagia or water wheel



Two interesting First Day Covers from readers

immediately recall Durdle Door, which is a mass of Portland stone with an arch, through which a rowing boat could pass.

Then, on the 1/- value, there is a picture of a cave at Makefu. Well, Cheddar or Wookey in Somerset and Castleton in Derbyshire could also give pictures like this.

The 9d. is the most striking of the other values. On this there is a picture of a man spearing fish. A map of the region is on the ½d., Capt. Cook's boat, the 'Resolution', appears on the 1d., and Alofi Landing is shown on the 2d. A native hut is on the 3d., Alofi Bay on the 6d. and bananas form the theme of the 2/-. A view of Matafa Chasm is reserved

which is used for the purpose of irrigation. Illustrations of this type are really the most useful to those living out of the country, as they bring to the notice of the foreigner the difficulties which the natives have to overcome. Most people know there is a shortage of water all along the Nile, but they do not always pause to consider how the water from the river finds its way on to the land.

Geography

The Turks and Caicos Islands—where would you expect to find these on the map?—have quite a long set of 13 stamps to recount from ½d. to 10/-. Curiously enough the lowest value has one of the best illustrations. It is that of bulk salt loading from a jetty on to a boat. Diving for sponges is shown on the 2½d. and an excellent map on the 4d., which if you want to, will answer the question at the beginning of the paragraph.

The Cayman Islands have a similar set and various native views are given. One is rather new to the usual type and is

(Continued foot of page 220)



New Zealand for Health



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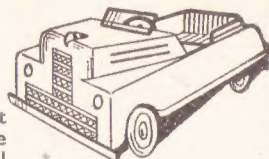


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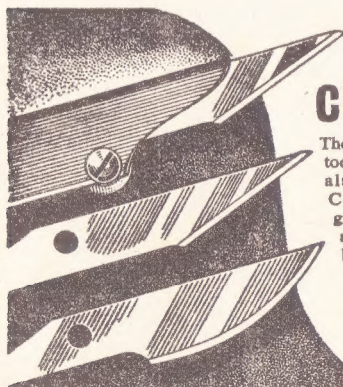
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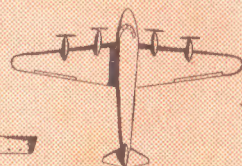
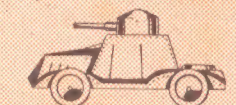
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